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(54) SURFACE PROCESSING METHOD AND ITS EQUIPMENT

(57) Abstract:

PURPOSE: To realize working free from microloading effect, by supplying gas seeds having dipole moments to the vicinity of a substrate to be processed which is constituted of a plurality of materials containing material having bonds of polarity.

CONSTITUTION: When gas seeds having dipole moments are supplied to a substrate 7 to be processed which is constituted of a plurality of materials containing material having bonds of polarity, a deposition film can be formed only on specified material on the substrate 7 surface. By using said film as etchant or an etching mask, the following material can be etched by a specified thickness for every one period, single crystal and polycrystalline silicon, which are most widely used as the constituent material of LSI devices, insulative glass material like SiO_2 , and silicide. In this case, the etching amount

a period becomes autonomously constant, and does not depend upon the time of discharge and the supply amount of gas. Thereby the working essentially free from microloading effect can be realized.

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